

## BIOGRAPHICAL SKETCH - JAMES E. CLOERN

Updated May 2013

### EDUCATION

University of Wisconsin-Madison, B.S. 1970, Zoology  
University of Wisconsin-Milwaukee, M.S. 1973, Zoology (fisheries biology, limnology)  
Washington State University, Ph.D. 1976, Zoology (limnology, ecological modeling)

### RESEARCH AND PROFESSIONAL EXPERIENCE

1999-present Senior Research Scientist, U.S. Geological Survey, Menlo Park, CA  
1997-present Consulting Professor, Stanford University, Department of Civil & Env. Engineering  
2005 Chercheur Associé, Centre National de la Recherche Scientifique, Brest, France  
2005 Instructor, Ecole Doctorale, Université de Bretagne Occidentale, Brest, France  
2000 Visiting Scientist, National Environmental Research Institute, Roskilde, Denmark  
1976-1999 Research Scientist, U.S. Geological Survey, Menlo Park, CA  
1997-1998 Lecturer, University of California-Santa Cruz, Department of Earth Sciences  
1996 Visiting Lecturer, Second Institute of Oceanography, Hangzhou, China  
1993 Distinguished Visiting Scientist, National Institute of Water and Atmospheric Research, Hamilton, New Zealand  
1993-1994 Directeur de Recherche, Université d'Aix-Marseille II, France

### RESEARCH INTERESTS

Comparative ecology and biogeochemistry of estuaries, directed to understand how they respond as ecosystems to climate variability and human disturbance. Research is focused around a long-term (37 year) team investigation of San Francisco Bay that has included study of primary production, nutrient cycling, algal and zooplankton community dynamics, ecosystem metabolism and food web dynamics, disturbance by introduced species, Bay-Ocean connectivity, ecosystem restoration, and projected responses to climate change.

### AWARDS AND HONORS

Brown-Nichols Achievement Award, Delta Science Program, 2012 <http://scienceconf.deltacouncil.ca.gov/content/brown-nichols-science-award>  
Ian Morris Scholar in Residence, Horn Point Laboratory, University of Maryland Center for Environmental Science, 2012 <http://www.umces.edu/hpl/ian-morris-scholar-residence>  
B.H. Ketchum Award, Woods Hole Oceanographic Institution, 2010 <http://www.whoi.edu/page.do?pid=7545&tid=3622&cid=72786>  
Laura Randall Schweppe Endowed Lecturer, University of Texas Marine Science Institute, 2009  
Fulbright Senior Specialist, 2008-present  
Golden Screen Award, National Association of Government Communicators, 2003  
U.S. Department of Interior Distinguished Service Award, 2000  
USGS Shoemaker Communications Award, 1998  
Fulbright Research Scholar, 1993-94  
NATO Collaborative Research Grant Award, 1993  
U.S. Department of Interior Meritorious Service Award, 1991

### POSTDOCTORATES:

Dr. Linda Huzzey, Professor of Marine Science, U.S. Coast Guard Academy  
Dr. Richard L. Miller, Research Scientist, NASA Stennis Space Center  
Dr. Jane Caffrey, Assistant Professor, Center for Bioremediation and Diagnostics, University of West Florida  
Dr. Joseph Rudek, Senior Scientist, Land, Water and Wildlife Programs, Environmental Defense Fund  
Dr. Elizabeth Canuel, Professor of Marine Science, Virginia Institute of Marine Science

Dr. Lisa Lucas, Research Engineer, U.S. Geological Survey  
Dr. William Sobczak, Associate Professor of Environmental Studies, College of Holy Cross  
Dr. Jean-Marc Guarini, Professor of Oceanography, Université Pierre et Marie Curie (Paris VI)  
Dr. Laurent Chauvaud, Directeur de Recherche, Institut Universitaire Européen de la Mer, Brest, France  
Dr. Nancy Monsen, Research Associate, Dept. Civil & Environmental Engineering, Stanford University  
Dr. Julien Thébault, Lecturer, Université de Bretagne Occidentale, Brest, France  
Dr. Rochelle Labiosa, Research Scientist, Pacific Northwest National Laboratory, Seattle

#### **THESIS/DISSERTATION COMMITTEES:**

Bertrand Millet, Université d'Aix-Marseille II, France, 1992 (Habilitation)  
Anne Lefebvre, Université de Montpellier II, France, 1993 (MS)  
Kedong Yin, University of British Columbia, Canada, 1993 (PhD)  
Frederic Jean, Université de Bretagne Occidentale, Brest, France, 1994 (PhD)  
Olivier Ragueneau, Université de Bretagne Occidentale, Brest, France, 1994 (PhD)  
Nabila Mazouni, Université d'Aix-Marseille II, France, 1995 (PhD)  
Jody Edmunds, Moss Landing Marine Laboratories, 1997 (MS)  
Lisa Lucas, Stanford University, 1997 (PhD)  
Laurent Chauvaud, Université de Bretagne Occidentale, Brest, France, 1998 (PhD)  
Anne Lorrain, Université de Bretagne Occidentale, Brest, France, 2002 (PhD)  
Christopher Carter, University of Canterbury, New Zealand, 2004 (PhD)  
Christine May, Stanford University, 2005 (PhD)  
Stephanie Moore, University of New South Wales, Australia, 2005 (PhD)  
Olivier Ragueneau, Université de Bretagne Occidentale, Brest, France, 2005 (Habilitation)  
Christel Pinazo, Université d'Aix-Marseille II, France, 2005 (Habilitation)  
Laurent Chauvaud, Université de Bretagne Occidentale, Brest, France, 2005 (Habilitation)  
Sophie Martin, Université de Bretagne Occidentale, Brest, France, 2005 (PhD)  
Julien Thebault, Université de Bretagne Occidentale, Brest, France, 2005 (PhD)  
Diana Escobedo, Centro Interdisciplinario de Ciencias Marinas, La Paz, Mexico, 2007 (PhD)  
Eric Goberville, Université de Bordeaux I, Bordeaux, France, 2010 (PhD)  
Anthony Malkassian, Université d'Aix-Marseille, France, 2012 (PhD)  
Simret Yigzaw, San Jose State University, 2013 (MS)  
Maeve Daugharty, San Francisco State University, 2013 (MS)  
Julian Damashek, Stanford University, 2013 (PhD)

#### **ADVISORY SERVICE (examples):**

Member, Florida Bay Science Oversight Panel, 1996-1998  
Advisor, Swan River Science Program, Perth, Australia, 1998  
Committee of International Experts, Programme Rade de Brest, France, 1998-2000  
Panelist, NSF Cooperative Activities in Environmental Research between the National Science Foundation and the European Commission, 2003  
Evaluator, Heinz Center's *State of the Nation's Ecosystems*, 2002-2003  
Advisor, USEPA STAR Grant Program, 2004  
Panelist, NOAA Coastal Ocean Research, Ecological Forecasting, 2004  
Advisor, USGS Tampa Bay Studies Program, 2004-2005  
Advisor, USEPA National Nutrient Criteria Program, 2005-2006  
Chesapeake Bay Program, Scientific Advisory Committee Workshop, 2007  
Work Group Member, National Center for Ecological Analysis and Synthesis, 2008-2010  
Scientific Committee for Ocean Research, Working Group 137, 2009-  
External Review Panel, Stazione Zoologica Anton Dohrn, Naples, Italy, 2009

Member, USGS Science Strategy Planning Team for Ecosystems, 2010-2012  
Panelist, National Science Foundation, Long Term Ecosystem Research Program, 2012  
Briefing of flow standards for San Francisco Bay, California Water Resources Control Board 2012  
President, International Scientific Advisory Committee, LabexMER (Marine Excellence Research), Brest, France, 2012-  
Science Advisor to Bay Area Ecosystems Climate Change Consortium, 2012-  
Advisor to the Delta Science Program 2012-  
Science Advisor on potential effects of the Diquis Dam project, Costa Rica, 2013-

**SCIENTIFIC SOCIETIES (examples):**

Editorial Board, *Limnology and Oceanography*, 1989-1992  
Editorial Board, *Estuaries*, 1989-1994  
Program Chair, Estuarine Research Federation, Biennial Meeting, 1991, San Francisco  
Steering Committee, American Society of Limnology and Oceanography, 1997 Aquatic Sciences Meeting  
Outstanding Reviewer, *Limnology and Oceanography*, 2004  
Session Organizer, 2004 ASLO/TOS Ocean Research Conference, Honolulu  
Associate Editor, *Limnology and Oceanography*, 2004-2005  
Scientific Program Committee, 8<sup>th</sup> International Conference on Shellfish Restoration, Brest, France, 2005  
Co-Editor in Chief, *Estuaries and Coasts*, 2007-2012  
Convener and Organizer, AGU Chapman Conference on phytoplankton time series, Rovinj, Croatia, 2007  
Session Organizer, 2009 Coastal and Estuarine Research Federation Meeting, Portland OR  
Session Organizer, 2013 Coastal and Estuarine Research Federation Meeting, San Diego

**KEYNOTE TALKS (examples):**

University of Connecticut, Dedication of the Marine Sciences Building, 2001  
Forum Québécois en Sciences de la Mer, Québec, Canada, 2002  
CALFED Science Conference, Sacramento CA, 2003 and 2008  
National Water Quality Monitoring Council, San Jose CA, 2005  
State of the San Francisco Estuary Conference, Oakland CA, 2009  
Brazilian Congress of Oceanography, Rio Grande, Brazil 2010  
International Symposium on Research and Management of Eutrophication in Coastal Ecosystems, Nyborg, Denmark 2010  
California Water Environment Association 2011  
International Council for Exploration of the Sea (ICES), Annual Science Conference, Gdansk, Poland 2011

**INVITED TALKS (examples):**

Marine Biological Laboratory, Woods Hole MA, Distinguished Scientist Seminar 2006  
Estuarine Research Federation Meeting, Providence RI, 2007  
AGU Meeting, San Francisco CA, 2008  
CSIRO Marine and Atmospheric Research, Hobart, Australia 2008  
ASLO Ocean Sciences Meeting, Nice, France, 2009  
AAAS Pacific Division Symposium, San Francisco CA, 2009  
National Environmental Research Institute, Roskilde, Denmark 2010  
Centro Interdisciplinario de Ciencias Marinas, La Paz, Mexico 2010  
Scientific Committee for Ocean Research, WG 137 workshop, Hangzhou, China, 2010  
Ketchum Award acceptance lecture, Woods Hole Oceanographic Institution, 2010  
NRC Committee on Sustainable Water and Environmental Management in the California Bay-Delta, Sacramento CA, 2010  
Scientific Committee for Ocean Research, WG 137 workshop, Sorrento, Italy, 2011

Stazione Zoologica Anton Dohrn, Naples, Italy, 2011

Coastal and Estuarine Research Federation Meeting, Daytona FL, 2011

North American Congress for Conservation Biology, Oakland CA, 2012

IMBIZOIII, Goa, India, 2013

Invited University Lectures (examples): Ecole Doctorale, Université de Bretagne Occidentale, Brest, France; Université de Rennes, France; Université de la Méditerranée, Marseille, France; College of Holy Cross; University of Washington; University of North Carolina; University of Wisconsin; University of Texas at Austin; University of California - Santa Cruz, Davis, Berkeley; State University of New York – Stony Brook; Stanford University; Scripps Institute of Oceanography; Griffith University-Gold Coast, Australia; University of Georgia; University of British Columbia; Griffith University, Brisbane, Australia; McQuarie University, Sydney, Australia; Virginia Institute of Marine Science; University of Aarhus, Denmark; University of Texas – Austin; Chesapeake Biological Laboratory 2012; Horn Point Laboratory 2012

## OUTREACH AND COMMUNICATION

Interview on NPR series *Living on Earth*, 2009, <http://www.livingonearth.org/shows/segments.htm?programID=09-P13-00004&segmentID=6>

Organizer and Instructor, International Summer School: “Facing Climate Change”, Brest, France 2010

Published R package wq0.2-2: *Exploring water quality monitoring data* <http://cran.r-project.org/web/packages/wq/vignettes/wq-package.pdf>

Interview published in *Estuary News* 20(5), 2011 <http://www.sfestuary.org/PDF/newsletters/October2011ESTUARYNEWS.pdf>

USGS Press Release about a 2011 scientific article [http://www.usgs.gov/newsroom/article.asp?ID=3022#.T8JX\\_-1ORA4](http://www.usgs.gov/newsroom/article.asp?ID=3022#.T8JX_-1ORA4)

Numerous radio, television and press interviews (e.g., KQED and KRCB radio, PBS.org, Sacramento Bee, San Jose Mercury News, The Tribune, The Telegraph, ClimateWire, The Sun Herald, The Miami Herald, Scientific American, Central Valley Business Times, Kansas City Star, McClatchy-Tribune News Service)

Briefings on the value of long term monitoring for staff members to the US Senate Committee on Environment and Public Works, Office of Management and Budget, House Science Committee, and Congressional Research Service, Washington DC, May 2012 <http://www.compassonline.org/policy/May15/ScienceBriefing>

Tutorial on Scientific Writing and Publishing: Estuarine Research Federation Meetings 2007, 2009, 2013; Woods Hole Oceanographic Institution 2010; Horn Point Laboratory 2012; National Institute of Oceanography, Goa, India 2013

Public Lectures: USGS 2004 <mms://video.wr.usgs.gov/science/may04.wmv>; University of Texas Marine Science Institute 2009; USGS 2011 <http://online.wr.usgs.gov/calendar/2011/jul11.html>; Horn Point Laboratory 2012; DC Science Café, Washington DC 2012 <http://www.dcswa.org/dc-science-cafe-11---two-bays>

Briefings on restoration of the nation’s large ecosystems: Council on Environmental Quality; Office of Management and Budget; Congressional Research Service; House Natural Resources Committee. Washington DC, October 2012

# BIBLIOGRAPHY – JAMES E. CLOERN

- 1 Cloern, J.E., 1976. The survival of coho salmon (*Oncorhynchus kisutch*) eggs in two Wisconsin tributaries of Lake Michigan: American Midland Naturalist, 96:451-461.
- 2 Cloern, J.E., 1976. Recent limnological changes in southern Kootenay Lake, British Columbia: Canadian Journal of Zoology, 54:1571-1578.
- 3 Cloern, J.E., 1977. Effects of light and temperature on the growth and nutrient-uptake kinetics of *Cryptomonas ovata*: Journal of Phycology, 13:389-395.
- 4 Cloern, J.E., 1978. Simulation model of *Cryptomonas ovata* population dynamics in southern Kootenay Lake, British Columbia: Ecological Modeling, 4:133-149.
- 5 Cloern, J.E., 1978. Empirical model of *Skeletonema costatum* photosynthetic rate, with applications in the San Francisco Bay estuary: Advances in Water Resources, 1:267-274.
- 6 Cloern, J.E., and Nichols, F.H., 1979. A von Bertalanffy growth model with a seasonally varying coefficient: Journal of the Fisheries Research Board of Canada, 35:1479-1482.
- 7 Cloern, J.E., 1979. Phytoplankton ecology of San Francisco Bay: The status of our current understanding, in Conomos, T.J., ed., *San Francisco Bay: The Urbanized Estuary*: Pacific Division, AAAS, San Francisco, page 247-264.
- 8 Cloern, J.E., and Nichols, F.H., 1979. Water quality of South San Francisco Bay and Coyote Creek after failure of the San Jose-Santa Clara Water Pollution Control Plant. I. 17 September-10 October 1979: U.S. Geological Survey Open-File Report 79-16000. 25 p.
- 9 Cloern, J.E., and Cheng, R.T., 1981. Simulation model of *Skeletonema costatum* population dynamics in northern San Francisco Bay: Estuarine and Coastal Shelf Science, 12:83-100.
- 10 Alpine, A.E., Cloern, J.E., and Cole, B.E., 1981. Plankton studies in San Francisco Bay. I. Chlorophyll distributions and hydrographic properties of the San Francisco Bay estuary, July 1977-December 1979: U.S. Geological Survey Open-File Report 81-213.150 p.
- 11 Wong, R.L.J., and Cloern, J.E., 1981. Plankton Studies in San Francisco Bay. II. Phytoplankton abundance and species composition, July 1977 - December 1979: U.S. Geological Survey Open-File Report 81-214, 103 p.
- 12 Cloern, J.E., 1982. Does the benthos control phytoplankton biomass in South San Francisco Bay (USA)? Marine Ecology-Progress Series, 9:191-202.
- 13 Luoma, S.N., and Cloern, J.E., 1982. The impacts of waste water discharge on biological communities in San Francisco Bay, in Kockelman, W.J., Conomos, T.J., and Leviton, A.E., eds., *San Francisco Bay: Use and Protection*: Pacific Division, AAAS, San Francisco, page 137-161.
- 14 Wong, R.L.J., and Cloern, J.E., 1982. Plankton studies in San Francisco Bay. IV. Phytoplankton abundance and species composition, January 1980 -February 1981: U.S. Geological Survey Open-File Report 82-443, 152 p.
- 15 Cloern, J.E., Cole, B.E., and Oremland, R.S., 1983. Chemistry and microbiology of a sewage spill in South San Francisco Bay: Estuaries, 6:399-406.
- 16 Cloern, J.E., Alpine, A.E., Cole, B.E., Wong, R.L.J., Arthur, J.F., and Ball, M.D., 1983. River discharge controls phytoplankton dynamics in the northern San Francisco Bay estuary: Estuarine, Coastal and Shelf Science, 16:415- 429.
- 17 Cloern, J.E., Cole, B.E., and Oremland, R.S., 1983. Autotrophic processes in meromictic Big Soda Lake, Nevada: Limnology and Oceanography, 28:1049- 1061.
- 18 Cloern, J.E., Cole, B.E., and Oremland, R.S., 1983. Seasonal changes in the chemical and biological nature of a meromictic lake (Big Soda Lake, Nevada, USA): Hydrobiologia, 105:195-206.
- 19 Cloern, J.E., 1984. Temporal dynamics and ecological significance of salinity stratification in an estuary: Oceanologica Acta, 7:137-141.
- 20 Cole, B.E., and Cloern, J.E., 1984. Significance of biomass and light availability to phytoplankton productivity in San Francisco Bay: Marine Ecology- Progress Series, 15:15-24.
- 21 Catts, G., Khorram, S., Cloern, J.E., Knight, A.W., and DeGloria, S.D., 1985. Remote sensing of tidal chlorophyll *a* variations in estuaries: International Journal of Remote Sensing, 6:1685-1706.
- 22 Alpine, A.E., and Cloern, J.E., 1985. Differences in *in-vivo* fluorescence yield between three phytoplankton size classes: Journal of Plankton Research, 7:381-390.
- 23 Ambler, J.W., Cloern, J.E., and Hutchinson, A., 1985. Seasonal cycles of zooplankton from San Francisco Bay: Hydrobiologia, 129:177-197.
- 24 Cloern, J.E., Cole, B.E., Wong, R.L.J., and Alpine, A.E., 1985. Temporal dynamics of estuarine phytoplankton: A case study of San Francisco Bay: Hydrobiologia, 129:153-176.
- 25 Cloern, J.E., and Nichols, F.H., 1985. Time scales and mechanisms of estuarine variability - a synthesis from studies of San Francisco Bay: Hydrobiologia, 129:229-237.

- 22 Cloern, J.E., and Nichols, F.H., eds., 1985. *Temporal dynamics of an estuary - San Francisco Bay*: Developments in Hydrobiology No. 30, Kluwer Academic Publishers, Dordrecht, 237 pages.  
Alpine, A.E., Wienke, S.M., Cloern, J.E., and Cole, B.E., 1985. Plankton studies in San Francisco Bay. VIII. Chlorophyll distributions and hydrographic properties in South San Francisco Bay, 1983: U.S. Geological Survey Open-File Report 82-443, 152 p.
- 23 Nichols, F.H., Cloern, J.E., Luoma, S.N., and Peterson, D.H., 1986. Modification of an estuary: *Science*, 231:567-573.
- 24 Cole, B.E., Cloern, J.E., and Alpine, A.E., 1986. Biomass and productivity of three phytoplankton size classes in San Francisco Bay: *Estuaries*, 9:117-126.
- 25 Powell, T.M., Cloern, J.E., and Walters, R.A., 1986. Phytoplankton spatial distribution in South San Francisco Bay -- mesoscale and small-scale variability, in D.A. Wolfe, ed., *Estuarine Variability*: Academic Press, N.Y., page 369-383.
- 26 Cole, B.E., and Cloern, J.E., 1987. An empirical model of phytoplankton productivity in estuaries: *Marine Ecology Progress Series*, 36:299-305.
- 27 Wienke, S.M., and Cloern, J.E., 1987. The phytoplankton component of seston in San Francisco Bay: *Netherlands Journal of Sea Research*, 21:25-33.
- 28 Khorram, S., Catts, G.P., Cloern, J.E., and Knight, A.W., 1987. Modeling of chlorophyll *a* from an airborne scanner: *IEEE Transactions on GeoScience and Remote Sensing*, v. GE-25, page 662-669.  
Cloern, J.E., 1987. Review of the book "Synthesis and Modeling of Intermittent Estuaries", by W.R. Cuff and M. Tomczak, Jr.: *Marine Geology*, 76:332-333.
- 29 Zehr, J.P., Harvey, R.W., Oremland, R.S., Cloern, J.E., George, L., and Lane, J.L., 1987. Big Soda Lake (Nevada). 1. Pelagic bacterial heterotrophy and biomass: *Limnology and Oceanography*, 32:781-793.
- 30 Cloern, J.E., Cole, B.E., and Wienke, S.M., 1987. Big Soda Lake (Nevada). 4. Vertical fluxes of particulate matter - seasonality and variations across the chemocline: *Limnology and Oceanography*, 32:815-824.
- 31 Cloern, J.E., 1987. Turbidity as a control on phytoplankton biomass and productivity in estuaries: *Continental Shelf Research*, 7:1367-1381.
- 32 Powell, T.M., Willmot, S., Murray, J.D., Manoranjan, V.S., and Cloern, J.E., 1988. Transient spatial patterns in plankton communities: blooms and traveling waves of phytoplankton in estuaries, in Hallam, T.G., Gross, L.J. and Levin, S.A., eds., 1986 *Proceedings of Triest Research Conference on Mathematical Ecology*: World Scientific Publishing, page 236-267.
- 33 Alpine, A.E., and Cloern, J.E., 1988. Phytoplankton growth rates in a light- limited environment, San Francisco Bay. *Marine Ecology Progress Series*, 44:167-173.
- 34 Oremland, R.S., Cloern, J.E., Sofer, Z., Smith, R.L., Culbertson, C.W., Zehr, J., Miller, L., Cole, B.E., Harvey, R., Iversen, N., Klug, M., Des Marais, D.J., and Rau, G., 1988. Microbial and biogeochemical processes in Big Soda Lake, Nevada, in A.J. Fleet, K. Kelts, and M.R. Talbot, eds., *Lacustrine Petroleum Source Rocks*: Geological Society Special Publication no. 40, page 59-75.  
Alpine, A.E., Wienke, S.M., Cloern, J.E., and Cole, B.E., 1988. Plankton studies in San Francisco Bay. IX. Chlorophyll distributions and hydrographic properties in South San Francisco Bay, 1984-1986: U.S. Geological Survey Open-File Report 88-319, 86 p.
- 35 Kuwabara, J.S., Chang, C.C.Y., Cloern, J.E., Fries, T.L., Davis, J.A., and Luoma, S.N., 1989. Trace metal associations in the water column of South San Francisco Bay, California: *Estuarine, Coastal and Shelf Science*, 28:307- 325.  
Cloern, J.E., 1989. Phytoplankton, in Britton, L.J. and Greeson, P.E., eds., *Methods for collection and analysis of aquatic biological and microbiological samples: Techniques of Water Resources Investigations of the U.S. Geological Survey*, Chapter A-4, p. 99-115.
- 36 Powell, T.M., Cloern, J.E., and Huzzey, L.M., 1989. Spatial and temporal variability in South San Francisco Bay. I. Horizontal distributions of salinity, suspended sediments, and phytoplankton biomass and productivity: *Estuarine, Coastal and Shelf Science*, 28:583-597.
- 37 Cloern, J.E., Powell, T.M., and Huzzey, L.M., 1989. Spatial and temporal variability in South San Francisco Bay. II. Temporal changes in salinity, suspended sediments, and phytoplankton biomass and productivity over tidal time scales: *Estuarine, Coastal and Shelf Science*, 28:599-613.
- 38 Huzzey, L.M., Cloern, J.E., and Powell, T.M., 1990. Episodic changes in lateral transport and phytoplankton distribution in South San Francisco Bay: *Limnology and Oceanography*, 35:472-478.  
Wienke, S.M., Alpine, A.E., Cloern, J.E., and Cole, B.E., 1990. Plankton studies in San Francisco Bay. X. Chlorophyll distributions and hydrographic properties in San Francisco Bay, 1987: U.S. Geological Survey Open-File Report 90- 145, 50 p.  
Wienke, S.M., Cloern, J.E., and Cole, B.E., 1990. Plankton studies in San Francisco Bay. XI. Chlorophyll distributions and hydrographic properties in San Francisco Bay, 1988-1989: U.S. Geological Survey Open-File Report 90-562, 212 p.

- 39 Cloern, J.E., 1991, Annual variations in river flow and primary production in the South San Francisco Bay Estuary, in Elliott, M. and Ducrottoy, D., eds., *Estuaries and Coasts: Spatial and Temporal Intercomparisons*: Olsen and Olsen Publishers, Denmark, p. 91-96.
- 40 Cloern, J.E., 1991, Tidal stirring and phytoplankton bloom dynamics in an estuary: *Journal of Marine Research*, 49:203-221.

Wienke, S.M., Cole, B.E., Cloern, J.E., and Alpine, A.E., 1991, Plankton studies in San Francisco Bay. XII. Chlorophyll distributions and hydrographic properties in San Francisco Bay, 1990: U.S. Geological Survey Open-File Report 91-476, 85 p.
- 41 Alpine, A.E., and Cloern, J.E., 1992, Trophic interactions and direct physical effects control phytoplankton biomass and production in an estuary: *Limnology and Oceanography*, 37:946-955.
- 42 Cole, B.E., Thompson, J.K., and Cloern, J.E., 1992, Measurement of filtration rates by infaunal bivalves in a recirculating flume: *Marine Biology*, 113:219-225.
- 43 Cloern, J.E., Alpine, A.E., Cole, B.E., and Heller, T., 1992, Seasonal changes in the spatial distribution of phytoplankton in small, temperate-zone lakes: *Journal of Plankton Research*, 14:1017-1024.

Wienke, S.M., Cole, B.E., Cloern, J.E., and Alpine, A.E., 1992, Plankton studies in San Francisco Bay. XIII. Chlorophyll distributions and hydrographic properties in San Francisco Bay, 1991: U.S. Geological Survey Open-File Report 92-158, 116 p.
- 44 Jassby, A.D., Cloern, J.E., and Powell, T.M., 1993, Organic carbon sources and sinks in San Francisco Bay: variability induced by river flow. *Marine Ecology Progress Series*, 95:39-54.

McBride, G.B., Vant, W.N., Cloern, J.E., and Liley, J.B., 1993, Development of a model of phytoplankton blooms in Manukau Harbour: NIWA Ecosystems Publication No. 3, Hamilton, New Zealand, 52 pp..
- 45 Koseff, J.R., Holen, J.K., Monismith, S.G., and Cloern, J.E., 1993, Effects of vertical mixing and benthic grazing on phytoplankton populations in shallow, turbid estuaries: *Journal of Marine Research*, 51:843-868.

Cloern, J.E., Canuel, E.A., and Wienke, S.M., 1993, Particulate organic matter in the San Francisco Bay estuary, California: chemical indicators of its origin and assimilation into the benthic food web: U.S. Geological Survey Open-File Report 93-146, 42 p.

Wienke, S.M., Cole, B.E., and Cloern, J.E., 1993, Plankton studies in San Francisco Bay. XIV. Chlorophyll distributions and hydrographic properties in San Francisco Bay, 1992: U.S. Geological Survey Open-File Report 93-423, 175 p.
- 46 Cloern, J.E., Cole, B.E. and Hager, S.W. 1994. Notes on a *Mesodinium rubrum* Red Tide in South San Francisco Bay (USA): *Journal of Plankton Research*, 16:1269-1276.

Jassby, A., Cloern, J.E., Caffrey, J., Cole, B., and Rudek, J., 1994, San Francisco Bay/Delta Regional Monitoring Program plankton and water quality pilot study, 1993, in 1993 Annual Report. San Francisco Estuary Regional Monitoring Program for Trace Substances. San Francisco Estuary Institute, p. 117-128

Caffrey, J.M., Cole, B.E., Cloern, J.E., Rudek, J.R., Tyler, A.C., and Jassby, A.D., 1994, Studies of the plankton and its environment in the San Francisco Bay Estuary, California. Regional Monitoring Results, 1993: U.S. Geological Survey Open-File Report 94-82, 411 p.
- 47 Cloern, J.E. and Jassby, A.D., 1995, Year-to-year fluctuation of the spring phytoplankton bloom in South San Francisco Bay: An example of ecological variability at the land-sea interface, in Steele, J.H, Powell, T.M., and Levin, S., eds., *Ecological Time Series*, Chapman Hall, p. 139-149.
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Cloern, J.E., 1995, Ecosystem responses to phytoplankton blooms -- examples from South San Francisco Bay: Newsletter, Interagency Ecological Program for the Sacramento-San Joaquin Estuary, Spring 1995, p. 10-14.

Cloern, J.E., Luoma, S.N., and Nichols, F.H., 1995, The United States Geological Survey San Francisco Bay Program: Lessons Learned for Managing Coastal Water Resources: U.S. Geological Survey, Fact Sheet FS-053-95
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